Figure S1. Schematic representation of the scope of the research.

Figure S2. Images of Alcian blue mucus staining of Calu-3 cells grown in ALI model ± urban dust (amounts annotated in the figure).

Figure S3. (**A**) Images of Alcian blue mucus staining of Calu-3 cells grown in ALI model ± PolmonYDEFENCE/DYFESA (69 µg). (**B**) Quantification of mucus by image J analysis. Statistical significance was calculated using one-way ANOVA with Dunnett's multiple comparisons tests (* $p < 0.033$; *** $p < 0.0002$).

Figure S4. SEM Images of PolmonYDEFENCE/DYFESA and Sodium Hyaluronate (Na-Hya) at 100× magnification.